APR 28 1921 ©CLM 1925C

POWER - POWELL

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Title #1.- P O W E R .

2.- P O W E R
P O W E L L

2 Reels

3.- P O W E L L

4.- Copyright, 1921, by the A. L. Powell Power Company, Inc.

5.- Fully protected by patents allowed and pending.

6.- Produced by the Colonial Film Co., Inc., Washington, D.C.

7.- FOREWORD - The problem of the Age is - Power. It is the crying need of expanding Civilization.

8.- This is the story of the triumph of an IDEA.

9.- A. L. Powell, inventor of the Powell System of Applied Leverage, brings successful model to Patent Office.

10.- On leaving, he shows Mrs. Powell eight allowances of patents, granted in one day. He receives congratulations.

11.- Introduction to Theorem.
The diameter of a circle for all practical purposes is one-third of the circumference, therefore -

12.- The Powell Theorem.
Let POWER be applied in any plane, for any distance, to any given circle:
The POWER is to actuate the circle for the distance of its diameter.

13.- At any given point, the acting POWER is to be transmitted to a second circle, and is to travel, in a straight line, a distance equal to the diameter of a third predetermined circle.

14.- The second circle, one-half the diameter of the first, is keyed to the same center. The applied POWER is transmitted in a straight line to a third circle, moving it through a complete revolution.

15.- It is assumed that the lesser circle is toothed, or provided with equivalent means for transmitting POWER.

16.- A X I O M
Every part of this compound lever is essential, and the sum of these parts equals the whole.

17.- R E S U L T
The circumference of the third or driven crank circle has a movement equal to that of the initial driving force. At the same time the leverage through which the driving force acts is doubled.

18.- "The mechanism in each cylinder is the same. I will now let one of the units speak for itself". In a picture.

19.- The parts of the Powell mechanism.

20.- The assembly.

21.- Now for the rest of the engine.

22.- A complete Powell motor unit applied to a Franklin engine. cylinder.

23.- The Powell Unit In Action.
In this system leverage is interposed between piston and crankshaft. The piston stroke is increased to SIX inches, the crank stroke remains four inches, GIVING A LEVERAGE EFFECT OF TWO TO ONE!

24.- Note the Intermediate Lever and Power Gear-Segment. The primary power from cylinder acts on long end of this lever, while the driving power is taken from the segment, which moves in half the radius. Thus the ratio is made TWO TO ONE!

24A- This working model constitutes but one of the many forms of the Powell leverage system, which when in use will practically double the horsepower of the World.

25.- On February 8th, 1921, at the shop of Frederick Carl, Inc., Washington, D. C., a standard Franklin engine was given an official test. It delivered the high average of 34.52 H.P. Among those present were two local Franklin men.

26. -The standard Franklin motor. (In a picture).

27.- (another still picture)

28.- The brake-beam developed a scale pull of 32 pounds.

29.- Notarial certificate of the Franklin engine test.

30.- A cylinder unit of this Franklin motor, of four inch stroke.

31.- The same unit, Powell-equipped.

32.- The stroke is now six inches, BUT --

33.- The gas intake may be six inches, instead of four inches

or full length of piston stroke when required in high altitudes for airplanes where the air is rarefied, but the crank stroke remains four inches or less than the piston stroke.

34.- The actual gas intake is accomplished DURING THE FIRST FOUR INCHES OF STROKE, ONLY.

35.- Six inches power for four inch gas consumption!

36.- The crank stroke remains four inches.

37.- And on March 12th, again at the shop of Frederick Carl, Inc.

38.- From many states had gathered men interested in the great question of Power: for it had been quietly announced that a great test of tremendous significance was to take place.

39.- Inside the shop stands the same Franklin engine, now "Powell-equipped", groomed for the test.

40.- The interest of the crowd increases as the preliminary tests are made.

41.- The technicians take their posts for the supreme effort.

42.- "Ready"!

43.- Then, at a word, the engine wakes to life, roaring its triumphant song of new-born Power---- -

44.- ---- while the engineers doubt their eyes as the brake-beam goes down - down - down!

45.- ------- and hovers, hesitates, and stops at the unbelievable figure of - 56 pounds!

46.- The machine is stopped - a brief delay - a quick computation. The engineer turns to his chief, and tells him the staggering result.

47.- "SIXTY ONE AND NINE TENTHS HORSEPOWER!" cried Mr. Powell, and the thrilled auditors burst into a spontaneous cheer.

48.- And as he stands there, witnessing the consummation of almost half a lifetime of unremitting effort, the inventor does not lose sight of those others, who, in carrying out his ideas have so faithfully aided him; but turning, thanks them individually.

49.- In a voice vibrant with feeling, he added:- "I thank my friends and all who have contributed to my attaining this fulfillment of my heart's desire. But, first, over and above all, Him to whom all power belongs - GOD."

50.- Notarial certificate of Powell-Franklin engine.

51.- (From the Washington Times, of Washington, D. C., March 19, 1921).
The Washington Times, Saturday, March 19, 1921.

52.- The results of recent tests by A. L. Powell of his lever mechanism to increase the efficiency of the piston stroke have excited considerable interest among engineers and motorists throughout the country. In recent tests made in Washington before several witnesses, Mr. Powell demonstrated the ability of his invention to increase

53.- the ability of his invention to increase the horsepower of a six-cylinder automobile motor 100 per cent.
The mechanism consists of an assembly of levers mounted between the cylinder block and the crank case and when in place transmits the power of the piston stroke to the crankshaft. The installation of the assembly in-

54.- the installation of the assembly increases the weight of a six-cylinder motor about 108 pounds and the height about nine inches.
In tests made with a popular six-cylinder motor it is reported a reduction in fuel consumption of 50 per cent was demonstrated and owing to a one-third increase in length of piston stroke

55.- a one-third increase in length of piston stroke through the use of the lever assembly the exhaust was expelled practically at air pressure and without noise, although no muffler was used.
The outstanding feature of the Powell invention is its ability to greatly lessen resistance to the piston stroke.

56. -and thereby increase the driving efficiency of the piston which of course results in lower fuel consumption in proportion to work done.
Mr. Powell, the inventor of the mechanism, has spent several years perfecting his idea and has embodied in his latest working assembly practical engineering principles based upon the laws of leverage.

57.- With the test over, the spectators, full of enthusiasm, leave the building, and, at the request of the cameraman, pose for a "happy ending" for this modern record of a great event.

58.- The inventor, A. L. Powell, and his wife.

59.- The Franklin men, the Patent Examiner, and the Engineering staff, Messrs. Wood, Wright and Buchanan.

60.- The Carl Brothers and their men. These are the last of

the large number of mechanics and engineers, scattered over the length and breadth of America, whose skill brought into metallic life the great conception of a daring mind.

61.- The Directors of the A. L. Powell Power Co., Inc., who had travelled across the Continent to witness the tests. Mrs. Powell and President Powell on the extreme right.

62.- Dr. F. S. Gray, the Vice-President, on the right.

63.- The Secretary, Mr. Wakefield, and his wife.

64.- Mr. and Mrs. C. F. Rainey.

65.- A group of the visitors.

66.- And at the Congressional Library, a few days later ----

67.- ----Mr. and Mrs. Powell bring a copy of the preceding film record for copyright registration.

68.- Leaving the Library, the copyright secured.

69.- "That's a beautiful bag you have."

70.- "Yes, my mother made it."

71.- A last look at their beautiful surroundings------

72.- ----- and the inventor and his wife bid us "God-speed".

73.- V I C T O R Y

Dedicated
to
ALVAH L. POWELL
by
J.N.Wood.

74.- Dreary the path may seem,
Weary the way;
Only a distant dream,
Speaking the day!

Gloomy and long the night,
Dawn still afar:
Dim on the trembling sight,
Shines one fair star.

75.- Firmly a path to tread,
-Hope knows not ill -
Laughing at phantoms dread,
On, onward still!

Take, then, the cherished prize,
Time gives at last:
Smile at the doubting eyes,
Envy aghast!

77.-Powell-Franklin flag

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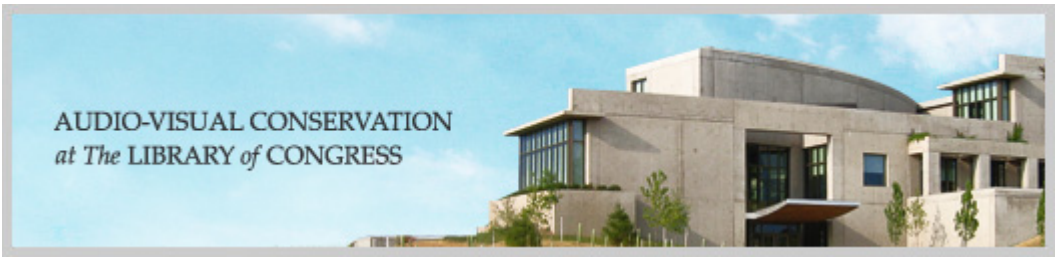

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